

Recovery Plan Action Status

Plan Name: Gouania hillebrandii (Rhamnaceae) Recovery Plan

Plan Status: Final

Plan Date: 16-Jul-90

Lead Agency: USFWS

Lead Office: Pacific Islands Fish And Wildlife Office

(808)

(792-9400)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gouania hillebrandii)	1	111	Secure habitat at Pa'upa'u	Complete	Prior to FY 1995	Prior to FY 1995	Hawaii Department of Land and Natural Resources	Acquisition: Management Agreement	Internal Administrative	Plant sanctuary status has been implemented.
No common name (Gouania hillebrandii)	1	1121	Terminate cattle grazing at Pa'upa'u population	Complete	Prior to FY 1995	Prior to FY 1995	Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation, Management: Predator and Competitor Control	Contract, Internal Field Assistance, Internal Technical Assistance	Cattle have not been found in this area and it is now fenced.
No common name (Gouania hillebrandii)	2	11221	Pa'upa'u subpopulation: Erect fence	Complete	Prior to FY 1995	Prior to FY 1995	Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation, Management: Predator and Competitor Control	Contract, Internal Field Assistance, Internal Technical Assistance, Volunteer	The fence was completed in 1986, and is maintained annually.
No common name (Gouania hillebrandii)	2	11222	Pa'upa'u subpopulation: Maintain fence	Ongoing Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation, Management: Predator and Competitor Control	Contract, Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Volunteer	The fence was completed in 1986, and is maintained annually.
No common name (Gouania hillebrandii)	2	1123	Pa'upa'u subpopulation: Protect from fire	Partially Complete	Prior to FY 1995		Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation	Contract, Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Volunteer	Only the the fence is maintained annually, and two fires came very close to the site in 2005.
No common name (Gouania hillebrandii)	2	11241	Pa'upa'u subpopulation: Eradicate noxious alien plants	Partially Complete	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation, Management: Predator and Competitor Control	Contract, Internal Field Assistance, Internal Technical Assistance, Volunteer	Only the fence is maintained, and while there are few alien plants within the fence in the trachyte soils, control of alien plants surrounding the fence would also reduce the risk of fire.

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No common name (Gouania hillebrandii)	2	11242	Pa'upa'u subpopulation: Prevent reestablishment of alien plants	Partially Complete	Prior to FY 1995		Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation, Management: Predator and Competitor Control	Contract, Internal Field Assistance, Internal Technical Assistance, Volunteer	Only the fence is maintained annually, and while there are few alien plants within the fence in the trachyte soils, control of alien plants surrounding the fence would also reduce the risk of fire.
No common name (Gouania hillebrandii)	2	11251	Pa'upa'u subpopulation: Monitor scale insects	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Predator and Competitor Control, Research: Population Surveys, Research: Predation	Contract, Graduate Student, Internal Field Assistance, Species Expert	Scale insects continue to be found on this species at this site, although their impact to the species is not known. The plants at this site are small and weak.
No common name (Gouania hillebrandii)	2	11252	Pa'upa'u subpopulation: Apply control techniques	Not Started			Hawaii Department of Land and Natural Resources	Management: Predator and Competitor Control	Contract, Internal Field Assistance, Internal Technical Assistance, Volunteer	The impact of the scale on the species first needs to be determined.
No common name (Gouania hillebrandii)	2	113	Pa'upa'u subpopulation: Conduct baseline surveys	Complete	Prior to FY 1995	Prior to FY 1995	U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Research: Population Surveys	Contract, Graduate Student, Internal Field Assistance, Species Expert	At the time the recovery plan was published, this population contained an estimated 750 to 1,000 individuals.
No common name (Gouania hillebrandii)	2	114	Pa'upa'u subpopulation: Develop additional habitat management needs	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Planning	Contract, Internal Field Assistance, Species Expert	
No common name (Gouania hillebrandii)	2	115	Pa'upa'u subpopulation: Monitor subpopulation	Ongoing Not Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources	Research: Population Surveys	Contract, Graduate Student, Internal Field Assistance, Species Expert	In 1998 or 1999, only a few small, weak plants remained at this site. No current information is available.

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No common name (Gouania hillebrandii)	1	121	Secure habitat at Lihau	Ongoing Not Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources	Acquisition: Management Agreement	Internal Administrative	The largest portion of the Lihau population is within the established West Maui Natural Area Preserve, Lihau section. The small portion of the population near the Launiupoko rim is within a proposed fenced area of the West Maui Watershed Partnership that was funded by the Service in FY 2005 for construction in FY 2006, but the small lower elevation Puu Hipa portion of the population is not protected.
No common name (Gouania hillebrandii)	2	1221	Lihau subpopulation: Prevent cattle grazing	Ongoing Current	FY 2000 - FY 2004		Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation, Management: Predator and Competitor Control	Contract, Internal Field Assistance, Internal Technical Assistance, Volunteer	To date, cattle have not been a threat to this population. A fence has been constructed along the lower elevation boundary of the Lihau section of the West Maui Natural Area Reserve to prevent the ingress of goats and deer, which are now spreading into West Maui.
No common name (Gouania hillebrandii)	2	1222	Lihau subpopulation: Protect from fire	Ongoing Not Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation	Contract, Internal Field Assistance, Internal Technical Assistance, Volunteer	
No common name (Gouania hillebrandii)	2	1223	Lihau subpopulation: Protect from herbivorous insects and competition with alien plants	Not Started			Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation, Management: Predator and Competitor Control	Contract, Internal Field Assistance, Internal Technical Assistance, Volunteer	

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No common name (Gouania hillebrandii)	2	123	Lihau subpopulation: Conduct baseline surveys	Complete	Prior to FY 1995	FY 2006	U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Research: Population Surveys	Contract, Graduate Student, Internal Field Assistance, Species Expert	Between 1980 and 1990, all three subpopulations were surveyed: the Lihau subpopulation was composed of 950 to 1,000 individuals, the Puu Hipa subpopulation about 16 individuals, and the Launiupoko rim subpopulation about 18 to 20 individuals. A new survey in Nov. 2005 found ca 1,000 individuals at Launiupoko rim, and in 2004 scattered individuals were found at the lower elevation Puu Hipa site and many plants at the upper elevation Puu Hipa site.
No common name (Gouania hillebrandii)	2	124	Lihau subpopulation: Develop additional habitat management needs	Partially Complete	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Planning	Contract, Internal Administrative, Internal Field Assistance, Species Expert	A management plan was prepared for the West Maui Natural Area Reserve in 1988; however, the detailed management needs of this population were not included in the plan.
No common name (Gouania hillebrandii)	2	125	Monitor Lihau subpopulation	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Research: Demographic Studies, Research: Habitat Requirements, Research: Habitat Status, Research: Population Surveys	Contract, Graduate Student, Internal Field Assistance, Species Expert	This population has not been monitored consistently.

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No common name (Gouania hillebrandii)	2	211	Identify sources of chewing insect damage	Not Started			Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Management Techniques, Research: Predation	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	The presence of chewing insects has not been reported recently and their impact to the species is not known. Research on impacts should be conducted prior to large scale control efforts, as there is currently no known effective control method.
No common name (Gouania hillebrandii)	2	212	Develop methods for controlling scale insects	Not Started			Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Management Techniques, Research: Predation	Contract, Graduate Student, Internal Technical Assistance, Species Expert	Scale insects continue to be found on this species at this site, although their impact to the species is not known. Research on impacts should be conducted prior to large scale control efforts, as there is currently no known effective control method.

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No common name (Gouania hillebrandii)	2	221	Determine which alien plants are a threat	Partially Complete	Prior to FY 1995		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Competition	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	The initial West Maui Natural Area Reserve Management Plan includes some alien plant threats to the Lihau section of the Natural Area Reserve, but does not address the particular threats to this species at this site. No detailed assessment of alien plant threats has been conducted for the Pa'upa'u population. Additionally, new alien plant species are continually becoming established and posing threats, especially in the low elevation dry habitat of this species. Therefore, alien plant threat assessment is an ongoing task.
No common name (Gouania hillebrandii)	2	222	Develop alien plant control techniques	Ongoing Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, U.S. Forest Service	Research: Competition, Research: Management Techniques	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	Numerous studies on the control of various alien plants have been or are being conducted by the Invasive Species Committees and land managers on each island, and the results of these studies are used to determine the best method of weed control for alien plant pests found in Gouania hillebrandii habitat.

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No common name (Gouania hillebrandii)	3	31	Initiate surveys for new subpopulations	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Research: Population Surveys	Contract, Graduate Student, Internal Field Assistance, Species Expert	Surveys for additional populations are ongoing. In 1999, a population of ca 50 mature plants was found on Molokai near a population not seen since 1973. Additional surveys of suitable habitat on Maui, Molokai, and Lanai are still needed.
No common name (Gouania hillebrandii)	3	32	Protect newly discovered habitat	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Acquisition	Contract, Internal Administrative	
No common name (Gouania hillebrandii)	3	41	Establish propagule bank	Partially Complete	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Propagation	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert	National Tropical Botanical Garden has a few seeds from Lihau, and Maui Nui Botanical Garden and Hawaii Division of Forestry and Wildlife baseyard have a few plants from Lihau in ex situ collections, but none of the plants have produced viable seeds. This is far from a complete genetic collection.
No common name (Gouania hillebrandii)	3	421	Study habitat requirements	Ongoing Not Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Habitat Requirements	Contract, Graduate Student, Internal Field Assistance, Species Expert	It is known that this species is restricted to trachyte soils, which are rare in Hawaii.
No common name (Gouania hillebrandii)	3	422	Locate suitable introduction sites	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Acquisition: Lease	Contract, Graduate Student, Internal Field Assistance, Species Expert	Started with essential habitat maps developed by HPPRCC.

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No common name (Gouania hillebrandii)	3	423	Determine propagation techniques	Ongoing Not Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Propagation	Contract, Species Expert	Maui Nui Botanical Garden and Hawaii Division of Forestry and Wildlife baseyard have grown plants from seed. Fern Duvall says seedlings that germinate in the wild is small pockets of clay soil outside of the trachyte areas could be collected and grown in nurseries for genetic storage and reintroduction efforts.
No common name (Gouania hillebrandii)	3	424	Determine introduction techniques	Not Started			Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Reintroduction	Contract, Species Expert	
No common name (Gouania hillebrandii)	3	425	Determine criteria for reestablishment	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Reintroduction	Contract, Internal Field Assistance, Species Expert	
No common name (Gouania hillebrandii)	3	43	Reintroduce to new areas	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Reintroduction	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	
No common name (Gouania hillebrandii)	3	51	Verify demographic units	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Geological Survey, Biological Resources Division	Other: Regulations, Research: Demographic Studies, Research: Habitat Requirements, Research: Habitat Status, Research: Reintroduction	Contract, Internal Administrative, Species Expert	

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No common name (Gouania hillebrandii)	3	52	Verify minimal viable populations	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Geological Survey, Biological Resources Division	Other: Regulations, Research: Demographic Studies, Research: Habitat Requirements, Research: Habitat Status, Research: Population Surveys, Research: Reintroduction	Contract, Internal Administrative, Species Expert	
No common name (Gouania hillebrandii)	3	53	Determine number of sites per deme	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Geological Survey, Biological Resources Division	Other: Regulations, Research: Demographic Studies, Research: Habitat Requirements, Research: Habitat Status, Research: Population Surveys, Research: Reintroduction	Contract, Internal Administrative, Species Expert	
No common name (Gouania hillebrandii)	3	54	Determine optimum age structure	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Geological Survey, Biological Resources Division	Other: Regulations, Research: Demographic Studies, Research: Habitat Requirements, Research: Habitat Status, Research: Population Surveys, Research: Reintroduction	Contract, Internal Administrative, Species Expert	